CLAIMS

We claim:

1. A golf club head comprising a first body portion and a second body portion, the first body portion including a front face having a geometric face center, wherein the club head has a center of gravity of at least about 5 mm lower than the geometric face center.

2. The golf club head of claim 1, wherein the front face has a point of maximum coefficient or restitution not higher than about 2 mm below the geometric face center.

3. The golf club head of claim 1, wherein the front face has a point of maximum coefficient or restitution not higher than about 5 mm below the geometric face center.

4. The golf club head of claim 2, wherein the point of maximum coefficient of restitution is centered with respect to geometry.

5. The golf club head of claim 1, wherein the first body portion is composed of a first material having a density, the second body portion is composed of a second material having a density that is less than the density of the first material.

6. The golf club head of claim 5, wherein the second body portion forms at least a crown section, and a substantial portion of a skirt section.

7. The golf club head according to claim 5, wherein the second body portion density is between about 0.1 g/cc to 4.0 g/cc.

8. The golf club head according to claim 5, wherein the first material is a titanium alloy and the second material is a metal, or a composite or a thermoplastic.

9. The golf club head according to claim 8, wherein the second material is magnesium.

10. The golf club head according to claim 5, wherein the first material is a stainless steel alloy and the second material is metal, composite or a thermoplastic.

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11. The golf club head according to claim 10, wherein the second material is a titanium alloy.

12. The golf club head of claim 5, wherein the second body portion is cast, formed, injection molded, machined or pre-preg sheet formed.

13. The golf club head of claim 5, wherein the first body portion is forged.

14. The golf club head of claim 5, wherein the first body portion is sheet metal formed.

15. The golf club head of claim 5, wherein the first body portion is cast.

16. The golf club head according to claim 1, wherein the club head has a maximum coefficient of restitution greater than 0.80.

17. The golf club head according to claim 2, wherein the point of maximum coefficient of restitution is located approximate to a vertical plane including the geometric face center.

18. The golf club head of claim 1, wherein the thickness of the front face is greater at a sole section than at a crown section.

19. The golf club head according to claim 1, wherein a high density weight portion is integral with a sole section at a distance away from the face.

20. The golf club head according to claim 19, wherein the high density weight portion is between about 15% to 25% of the total head weight.

21. A golf club head comprising:

a first body having a front face interposed between a crown section and a sole section, the front face having a geometric face center and a point of maximum coefficient of restitution;

the front face gradually increasing in thickness in a gradient from the crown section to the sole section,

wherein the club head has a center of gravity at least 6 mm lower than the geometric face center.

22. The golf club head of claim 21, wherein the club head comprises a second body portion composed of a second material having a density, and the first body portion is composed of a first material having a density that is greater than the density of the second material.

23. The golf club head of claim 22, wherein the second body portion forms at least a crown section and a substantial portion of a skirt section.

24. The golf club head according to claim 22, wherein the second body portion density is between about 0.1 g/cc to 4.0 g/cc.

25. The golf club head according to claim 22, wherein the first material is a titanium alloy or a stainless steel alloy and the second material is magnesium.

26. The golf club head according to claim 22, wherein the first material is a titanium alloy or a stainless steel alloy and the second material is aluminum or a graphite composite or a thermoplastic.

27. The golf club head of claim 22, wherein the second body portion is cast, formed, injection molded, machined or pre-preg sheet formed.

28. The golf club head of claim 21, wherein the first body portion is forged.

29. The golf club head of claim 21, wherein the first body portion is sheet metal formed.

30. The golf club head according to claim 21, wherein the point of maximum coefficient of restitution is located approximate to a vertical plane including the geometric face center.

31. The golf club head according to claim 21, wherein the club head has a maximum coefficient of restitution greater than 0.80.

32. The golf club head according to claim 21, wherein a high density weight portion is integral with the sole section at a distance away from the face.

33. The golf club head according to claim 32, wherein the high density weight portion comprises tungsten or molybdenum.

34. A golf club head comprising:

a first body portion and a second body portion, the first body portion including a front face having a variable face thickness; and

a second body portion having a low density crown section,

wherein the club head comprises a spin rate to launch angle ratio of less than about 275 at a geometric face center under robot test conditions.

35. The golf club head according to claim 34, wherein the spin rate to launch angle ration is less than 250.

36. The golf club head according to claim 34, wherein the club head has a sweet spot approximately at the geometric face center or above.

37. A golf club comprising:

a first body portion forming at least a face portion and a sole portion formed of a first metal having a first density;

a second portion forming at least a substantial portion of a crown section formed of a second metal having a second density less than the first; and

a hosel member extending above the crown section formed of a material having a density no greater than the first density.

38. The golf club head of claim 37, wherein the front face has a point of maximum coefficient or restitution not higher than about 2 mm below the geometric face center.

39. The golf club head of claim 37, wherein the front face has a point of maximum coefficient or restitution not higher than about 5 mm below the geometric face center

40. The golf club head of claim 38, wherein the point of maximum coefficient of restitution is centered with respect to geometry.

41. The golf club head of claim 37, wherein the first body portion is composed of a first material having a density, the second body portion is composed of a second material having a density that is less than the density of the first material.

42. The golf club head of claim 41, wherein the second body portion forms at least a crown section, and a substantial portion of a skirt section.

43. The golf club head according to claim 41, wherein the second body portion density is between about 0.1 g/cc to 4.0 g/cc.

44. The golf club head according to claim 41, wherein the first material is a titanium alloy and the second material is a metal, or a composite or a thermoplastic.

45. The golf club head according to claim 44, wherein the second material is magnesium.

46. The golf club head according to claim 41, wherein the first material is a stainless steel alloy and the second material is metal, composite or a thermoplastic.

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47. The golf club head according to claim 46, wherein the second material is a titanium alloy.

48. The golf club head of claim 41, wherein the second body portion is cast, formed, injection molded, machined or pre-preg sheet formed.

49. The golf club head of claim 41, wherein the first body portion is forged.

50. The golf club head of claim 41, wherein the first body portion is sheet metal formed.

51. The golf club head of claim 41, wherein the first body portion is cast.

52. The golf club head according to claim 37, wherein the club head has a maximum coefficient of restitution greater than 0.80.

53. The golf club head according to claim 52, wherein the point of maximum coefficient of restitution is located approximate to a vertical plane including the geometric face center.

54. The golf club head of claim 37, wherein the thickness of the front face is greater at a sole section than at a crown section.

55. The golf club head according to claim 37, wherein a high density weight portion is integral with a sole section at a distance away from the face.

56. The golf club head according to claim 55, wherein the high density weight portion is between about 15% to 25% of the total head weight.